

Title (en)  
DEVICE FOR FREQUENCY CONVERSION OF A LASER BEAM GENERATED WITH A FIRST FREQUENCY BY A LASER BEAM SOURCE

Title (de)  
EINRICHTUNG ZUR FREQUENZUMWANDLUNG EINES MIT EINER ERSTEN FREQUENZ VON EINER LASERSTRAHLQUELLE ERZEUGTEN LASERSTRAHLS

Title (fr)  
SYSTÈME DE CONVERSION DE FRÉQUENCE D'UN RAYON LASER GÉNÉRÉ À UNE PREMIÈRE FRÉQUENCE D'UNE SOURCE DE RAYONNEMENT LASER

Publication  
**EP 2936245 A1 20151028 (DE)**

Application  
**EP 13801501 A 20131126**

Priority  
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• EP 2013074729 W 20131126

Abstract (en)  
[origin: WO2014095264A1] A device for frequency conversion of a first laser beam (6) generated with a first frequency ( $\omega_1$ ) by a laser beam source (4) comprises: a) an optically non-linear first crystal (2) for generating a second laser beam (8) having a second frequency ( $\omega_2$ ), which differs from the first frequency ( $\omega_1$ ), said second laser beam propagating parallel to the first laser beam (6) after leaving the first optically non-linear crystal (2), b) an optically non-linear second crystal (10), which generates from the first and second laser beams (6, 8) at least one third laser beam (18) having a third frequency ( $\omega_3$ ), which differs from the first frequency ( $\omega_1$ ) and the second frequency ( $\omega_2$ ), c) an optical deflection device (12) for influencing the relative beam position between first and second laser beams (6, 8) in such a way that d) first and second laser beams (6, 8), before entering into the second crystal (10), propagate at an angle ( $\alpha$ ) with respect to one another, which angle differs from zero, and e) enter in a manner spaced apart from one another at an entrance surface (16) of the second crystal (10) and intersect within the second crystal (10) with at the same time collinear phase matching, wherein f) the entrance surface (16) of the second crystal (10) is inclined at a wedge angle ( $\gamma$ ) which differs from  $0^\circ$  with respect to two mutually parallel, mutually opposite side surfaces (17) of the second crystal (10).

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Citation (search report)  
See references of WO 2014095264A1

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